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Authors:

Dr Prainsack, Reader
King's College London
Centre for Biomedicine and Society (CBAS)
Strand
London
WC2R 2LS
UK
barbara.prainsack@kcl.ac.uk

Dr Victor Toom, Postdoctoral researcher
Northumbria University Centre for Forensic Science (NUCFS)
Newcastle upon Tyne
UK

The Prüm regime: Situated dis/empowerment in transnational DNA profile exchange

Abstract

This paper argues that despite recent critique of surveillance studies scholars pertaining to the shortcomings of the panoptic model, core conceptual tools in contemporary surveillance studies still privilege a focus on the oppressive elements of surveillance. This often yields unsatisfying insights into why surveillance works, for whom, and at whose costs. We discuss the so-called Prüm regime, regulating the transnational exchange of bioinformation for forensic and police use within the EU, to illustrate our claims. By articulating instances of what we call 'situated dis/empowerment', we highlight the large extent to which the empowering and disempowering effects of surveillance depend on each other.

Key words: surveillance, forensic DNA technologies, Prüm Decision, situated dis/empowerment

1. Introduction: Looking beyond the panopticon

The panopticon has traditionally been one of the central conceptual frames of surveillance studies. While it originally signified an 18th and 19th century prison architecture enabling the guard to watch prisoners at any time, it has since become a metaphor for a society in which surveillance is often invisible and impossible to escape. Moreover, because those who are surveilled are aware that they could be watched at any moment, they discipline themselves. Prisons, schools, or monasteries are classic examples of the disciplining effect of the panopticon, while closed circuit television (CCTV) has often been cited as the symbol of panoptic ('all-seeing') surveillance in the late 20th and starting 21st century (Lyon 2001; for a critical discussion see Lippert 2009; Hier 2004).

Recent scholarly work – while acknowledging the overall value of the panoptic model for the analysis of dynamics of surveillance mechanisms and infrastructures –, increasingly draws attention to the limits of this model in aiding our understanding of surveillance in contemporary societies. For example, in his illuminating chapter 'Tear down the walls: on demolishing the panopticon', sociologist Kevin Haggerty argued that 'important attributes of surveillance that cannot be neatly subsumed under the "panoptic" rubric have been neglected' (Haggerty 2006: 23). He noted that because the panoptic model directs our gaze to the oppressive dimensions of surveillance, it does not 'fit neatly within the preoccupations of [this model...] that surveillance can be experienced from both sides of the lens as "fun" or liberating' (Haggerty 2006: 28); such as in the case of computer games (Albrechtslund and Dubbeld 2005), social media, or the use of mobile phones. In a similar vein, David Lyon (1994; 2001) argued that surveillance is not solely oppressive but often has enabling and empowering effects as well (the 'Janus face' of surveillance; see also Dubbeld 2006).

Despite such observations by some of the thought-leaders in contemporary surveillance studies (see also Bigo 2006; Boyne 2000; Mathiesen 1997), much of the scholarly work discussing surveillance systems and practices still emphasises their oppressive effects. By under-exploring the empowering, productive, enabling, or even entertaining aspects of surveillance (for an exception: eg Albrechtslund and Dubbeld 2005), such case studies often fail to explain why some surveillance tools and practices are actively supported and adopted by those who are also affected by them. Because in such case studies surveillance technologies are merely seen as instruments through which power is exercised by some actors *on* others, surveillance is couched in the tradition of Foucault's relatively early work on disciplinary power (Foucault 1975; Paras 2006). In his later work, Foucault (eg 1980a, 1980b, 1983) relied on two additional and closely interlinked poles of power: regulation techniques at the

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level of the population, and self-regulation of individuals. These two poles are helpful for the analysis of contemporary surveillance systems as they represent another step away from the traditional focus on coercive and centralised power. As opposed to the disciplinary model, in regulatory societies, norms and values of authorities are enacted by the individual at least as much as they affect her from the outside. Furthermore, in the regulatory model, people are being 'normalised', and normalise themselves, also through non-directive ways of intervention. In other words, while disciplinary power operates on the basis of pre-existing, substantial norms enforced by surveillance and punishment, regulatory techniques work the other way round: What they observe (patterns of social interaction, morbidity rates, common behaviours, etc) is what becomes normative. The boundary between 'right' and 'wrong' is thus not primarily achieved through a process of moral and/or ethical reasoning, but by observing and evaluating statistic material (see Lemke *et al.* 2000). Consequently, the means and techniques of norm enforcement in regulatory societies are not clear-cut; they operate as much from the bottom up and horizontally as they operate from top down. Mechanisms of individual self-regulation complement the regulatory techniques employed by authorities at the level of the person who partakes in governing of her own self (Rose 1996; 1999; see also Digeser 1992; Prainsack 2006). They signify the ways in which we constitute ourselves in response to, and often in correspondence with, larger societal norms. For example, when we refrain from doing certain things in public places (using other people's things without asking, shouting, or showing too much physical affection) this is typically not the case because we worry about being fined by the police, or being monitored via surveillance cameras, but because we have established ourselves as responsible and considerate people who genuinely believe that adhering to certain rules of conduct in public places is good or necessary. We regularly translate authoritative norms into our own personal commitments (Rose 1999).

An approach that certainly challenges the hierarchical bias of the panoptic model, and thereby accommodates analyses comprising also regulatory techniques, is Haggerty and Ericson's (2000: 606) concept of the 'surveillant assemblage'. The surveillant assemblage signifies a cluster of interlinked systems and practices of surveillance which is continuously in flux, such as, for example, 'airport surveillance', which consists of different technological tools (surveillance cameras, duty free cashiers, luggage checks, tracking systems, etc), practices (body searches, passport controls), and rules. A surveillant assemblage does not have one fixed centre but many; the surveillance systems that it implies have not been designed as one coherent surveillance system generating centralised datasets, but they have grown into an assemblage of tools and practices yielding different kinds of decentralised datasets; they are not hierarchically structured but their structure is, as Deleuze and Guatarri (1987) called it, 'rhizomatic': a (mainly horizontal) network of interconnected points. The

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surveillant assemblage 'operates by abstracting human bodies from their territorial settings, and separating them into a series of discrete flows. These flows are then reassembled in different locations as discrete and virtual "data doubles"' (eg the boarding card information in the airport computer system; the image of the body scanner; the passport information; the memory of the barrista at a coffee shop in the gate area who remembers the 'weird behaviour' of a customer and reports it to her superior). The surveillant assemblage, as an analytic tool, takes as its reference point the human body which is taken apart (and later put together again) by various systems of surveillance at different levels. Because it does not require a focus on only one specific technological instrument, mechanism, or practice, it lends itself to analysing power dynamics that also – in addition to working from the top down –, work horizontally, and from the bottom up, such as the self-monitoring of individuals. As Haggerty and Ericson (2000: 609) state, 'desires for control, governance, security, profit and entertainment' are often implied in surveillant assemblages.

But also here, although the concept is open to seeing subjects of surveillance partaking in, or even desiring, their own surveillance, empirical analyses of studies of surveillant assemblages often fall short in portraying such constructive and productive participation in surveillance as anything but an instant of false consciousness. Part of the problem is arguably that while the concept of the surveillant assemblage sharpens our perception for important aspects and mechanisms of contemporary surveillance societies, such as flattening hierarchies and the dispersion of centralised power, in surveillance scholarship employing this notion, agency is often implicit. Drawing on work within the field of Science and Technology Studies (STS), what we mean by agency is the capacity to have an impact on the world (Law and Urry 2004; Barad 2003: 818), which is inherent in both human and non-human actors. Although action by human actors will regularly be intentional and purposeful (Wagenaar and Cook 2003), action does not require these properties in order to intervene in the world. The way that computers, for example, impact on the organisation of our work, is part of what we mean by agency.

Locating agency means to spell out who and what exactly engages in surveillance systems – both in terms of 'running' surveillance tools or systems and in terms of being surveilled –, in what form, and in what setting(s). This is arguably related to the concept itself: Inherent in Haggerty and Ericson's (2000: 606) definition that the '[surveillant] assemblage operates by abstracting human bodies from their territorial settings and separating them into a series of discrete flows' is the ascription of agency to the theoretical concept itself; in other instances it is loosely attributed to 'the state', 'the government', or 'companies' (for an exception see Klauser 2009). This under-conceptualisation of agency – Marx and Muschert (2007: 380; see also Ball 2005) call it a failure to 'disentangle the

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multiple dimensions that make up the ideal types or to explore their distributions, correlations, and interrelations' –, arguably also accounts for the over-emphasis on oppressive – 'panoptic' - elements in surveillance systems at the cost of the empowering ones. However, as argued above, it is exactly the empowering aspects of surveillance which explain much of the success of most surveillance systems.

Situated dis/empowerment

If we take this latter insight seriously, then we need a conceptual tool that allows us to see both the oppressive/disempowering, and the empowering aspects of surveillance. It should enable us to see who or what is at the centre of surveillance, and how, when and where agency is distributed, correlated and interrelated to understand how bodies or identities become (re)constituted. We use the term *situated dis/empowerment* to account for the need to also take into consideration the semiotic and material contexts of these processes, and to highlight the importance of 'location, positioning, and situating' (Haraway 1991: 195) of these practices and contexts. Most importantly, the notion of situated dis/empowerment helps us to see the ways in which empowering and disempowering effects of surveillance are always intertwined and often mutually constitutive.

DNA profiling for forensic and police uses constitutes an important field of surveillance in present day societies (McCartney 2004). In this context, the so-called Prüm regime, with its objective to improve cross-border collaboration to combat terrorism, to fight cross-border crime, and to prevent illegal migration (Prüm Treaty 2005) by means of, among other things, transnational exchange of DNA profiles between all EU countries, is an example of a surveillance system with situated dis/empowerment effects. In the following section, after providing an overview of the Prüm Treaty and its subsequent trajectory within the EU, we will articulate instances of situated dis/empowerment within the Prüm regime. We will conclude the paper with reflections on what the notion of situated dis/empowerment helps us to see that would be difficult to discern with other conceptual tools.

2. The Prüm regime: Instances of situated dis/empowerment

On 27 May 2005, the so-called Prüm Treaty – named after the German town where the meeting took place – was signed by representatives of seven European countries, Belgium, Germany, Spain, France, Luxembourg, The Netherlands, and Austria. It is commonly seen as a result of an initiative by

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then German Minister of Interior, Otto Schily, in 2003, driven by the conviction that the measures of the Schengen Treaty (abolishing border controls and enhancing police cooperation) and the provisions of the former so-called Third EU Pillar (Police and Judicial Cooperation in Criminal Matters) were not sufficient to address growing levels of cross-border crime.¹ As a result, the seven signatories of the Prüm Treaty decided to embark on a path of closer cooperation within the EU (Balzacq 2006; Luif 2007; De Neve 2007).

Two years after the Treaty was signed, in June 2007, the EU Council of Ministers of Justice and Home Affairs decided to transpose core parts of the Treaty into EU Law (See Kirkegaard 2008: 245; Bellanova 2008).² The formal adoption by the Council of the EU took place on 23 June 2008, and the Decision (2008/615/JHA; 2008/616/JHA) became effective in August 2008 (Prüm Decision 2008). By August 2011, all EU countries must comply with the Decision. This means that those countries which have not yet established centralised national forensic DNA databases, such as Italy, Greece, Malta, and Ireland, are required to do so to be able to allow law enforcement officers in other member countries to search their databases for potential matches of DNA and fingerprints.³ (Aspects of the Prüm Decision pertaining to fingerprints and vehicle data merit a separate discussion and are therefore not covered in this paper).

Technocratic drivers of integration

An enabling factor for the Prüm regime were early efforts of forensic scientists to standardise forensic DNA profiling technologies across national borders. These efforts date back to the late 1980s, when the European DNA Profiling Group (EDNAP) was established with the explicit purpose of 'harmonizing the DNA technology for crime investigation' in light of fears of an 'escalation of cross-border crimes' in an increasingly integrated Europe (EDNAP 2009; another important institution is the European Network of Forensic Science Institutes, ENFSI, see below). Soon after the establishment of EDNAP, in the early 1990s, short tandem repeats (STRs) were introduced for use in DNA-based forensic identification. An STR is a short DNA fragment – that is, a particular succession of nucleotides – that repeats itself at a given physical location (locus) at the genome. In the population at large, STRs manifest themselves in a varying, but finite, numbers of repeats at any given locus. Hence, two individuals may show two different numbers of repeats at a given locus, which is reflected in different STR profiles. At the population level, although many people share the same number of STRs at some loci, the likelihood of two non-biologically related individuals sharing the same number of STRs at more than one locus is very small. When a DNA profile is presented at court, it is typically accompanied by a 'random match probability' (RMP) figure. The RMP is the estimated

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frequency of a DNA profile expected to occur in a reference population. A RMP of, for example, one in a billion means that the chances that a randomly drawn DNA sample from a given population 'coincidentally' matches the DNA sample from the crime scene is one in a billion (see: Butler 2005: 500).

In 1995, EDNAP designated two STRs as 'ideal candidate loci for obtaining reproducible results between laboratories within both the European and international forensic communities' (Kimpton *et al* 1995: 150). Soon, other loci followed. Seven of these loci, together with sex test amelogenin (sex chromosome test), were combined in a commercially available multiplex DNA typing system developed and offered by the British Forensic Science Services (FSS). This so-called 'second generation multiplex' (SGM) system, and its successor SGM+ (10 loci and amelogenin), have since been adopted by more than 20 jurisdictions, including Austria, England, Ireland, the Netherlands, Sweden and Wales (Fereday 2004: 34). Hence, by means of SGM(+) and comparable other DNA typing systems, forensic scientists set up the basic conditions of possibility for the Prüm Treaty. Soon thereafter, the so-called European Standard Set (ESS), consisting of seven STR loci, was proposed by a group of forensic scientists of the ENFSI. The EU funded the ENFSI to increase collaboration 'between European laboratories, ultimately leading to the formation of a pan-European database' (Gill *et al* 2000: 1).

At the same time, the International Criminal Police Organization (Interpol) worked towards a standardised set of loci too (see Leriche *et al* 1998). Their efforts resulted in the establishment of the Interpol Standard Set of Loci (ISSOL), which is nearly identical to ESS. These standards importantly contributed to the Interpol DNA Gateway which became operational in June 2005. The DNA Gateway consists of a dedicated central database where all Interpol member countries can upload DNA traces and subject profiles. Exchange of DNA profiles between countries usually occurs on an individual case-by-case basis. In case of a 'hit', centrally stored DNA profiles which member countries upload to the Interpol Gateway 'pop up' on the computer screens at national contact points which have uploaded the same profiles to the system. Whether individual member countries respond to the query by checking whether the profile matches any profiles in their own database is up to them.

Despite Interpol's efforts to make the DNA Gateway a success, 'legislation and/or data protection rules prohibit the effective transfer of international DNA profiles' (Fisher 2004: 31; see also Williams and Johnson 2008: 155-6). Moreover, because Interpol has no effective means to enforce compliance with the DNA Gateway's objectives, the level and intensity of use of the Gateway varies strongly among member countries. This uneven uptake of active participation in the Interpol DNA Gateway

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The Prüm Decision sets out to remedy some of these issues, at least for EU countries, by doing away with the requirement for countries to upload data into a separate, shared database; instead, officials working for national DNA databases in EU countries can directly search existing operational databases of other countries for matches with their own DNA profiles, on a hit/no hit basis (see below). However, countries can still refrain from following up on a suspected 'hit'; for example, when starting investigative measures would seem unreasonable given unlikely chances for success, or when the acquisition of information or evidence on a case from another country would conflict with national law.

How exactly does it work?

When member countries start exchanging DNA profiles within the Prüm system, as a first step, all DNA profiles obtained from crime scene traces (DNA traces) stored in their national DNA databases are compared against profiles stored in the databases of other Prüm countries. Hence when the Dutch and German DNA database connected for the first time in July 2008, approximately 25,000 Dutch crime scene profiles were submitted to Germany, and approximately 125,000 such profiles from Germany were sent to the Netherlands. From then on, all new DNA profiles (both subject profiles and profiles obtained from crime scene traces) which individual countries upload to their own DNA databases are exchanged daily at a fully automated basis against all other DNA databases in Prüm countries. To date, Austria, Bulgaria, Finland, France, Germany, Luxemburg, Romania, Spain, Slovenia, and The Netherlands compare DNA profiles within the Prüm regime on a daily basis; it is expected that Finland will follow suit in the course of 2010. As mentioned above, all other EU countries need to be 'Prüm-ready' by August 2011. In addition, in January 2009, Iceland and Norway, which are not members of the EU, decided to link their DNA, fingerprint and vehicle data to those of EU countries (EU Council 2009).

That Prüm countries exchange DNA profiles on a so-called hit/no hit basis means that the automatic exchange results only in a 'yes' or 'no' answer regarding the presence of a match with another profile, without disclosing any nominal data about the matching profile's originator. If the system notifies the authorities of a 'match', then – after cross-checking the identity of the profile's originator with the help of biometric or dactyloscopic (fingerprint) data – all further measures which lead to the potential arrest of the suspect are carried out on a bilateral basis. For example, when a full 'match'

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between a subject profile and a crime scene profile has been found in the Dutch and German databases (e.g. when a DNA related to a homicide in the Netherlands matches a subject profile in the German DNA database), Dutch authorities contact the German National Contact Point and request nominal data of the subject profile with which a match was found. Such information will be distributed through mutual assistance procedures. As soon as personal data of this suspect is known, a juridical enquiry can be (re)opened.

Another scenario in the Prüm context entails the occurrence of matches between profiles derived from two or more crime scene stains. For example, it could be the case that four different crime scene stains in three different countries have the same genetic profile, suggesting that they all originate from the same person. This allows crime investigators to make inferences to connections between different crimes likely to have been committed by the same person or the same group of people. This, in turn, regularly generates information about likely migration patterns of the (unknown) suspect(s) in question.

Situated dis-empowerment: The issue of data protection

The Prüm regime has given rise to much criticism pertaining to function creep, threats to civil rights, and materialisation of a police state (see eg Bunyan 2010; Kirkegaard 2008; Bellanova 2008, Guild and Geyer 2008). Although we do not dispute the value and importance of such concerns, an analysis of the Prüm regime as a surveillance system focusing on the oppressive aspects of surveillance is of limited use in understanding its technological, economic, societal, and discursive dimensions, and ultimately also of the practical, operational, ethical challenges that the implementation of the Prüm regime raises (Cabezudo Bajo, forthcoming). In what follows we will articulate different instances where the Prüm regime has started to have effects that are best described in terms of situated dis/empowerment.

One field where the Prüm regime has taken effects of situated dis/empowerment is data protection. Data protection was one of the most controversially debated issues at the time of transposing the Prüm Treaty into EU law (Kirkegaard 2008). Data protection experts initially criticised the absence of data protection laws applicable to the transnational exchange of DNA profiles (Bellanova 2008). They argued that existing EU data protection rules were not applicable to police and judicial co-operation in criminal matters. However, the Prüm Decision has its own data protection provisions which override, in their capacity as a *lex specialis*, more lenient regulatory provisions in member countries, which in effect can be expected to lead to better data protection within the Prüm regime than it is

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the case in some national countries. In addition, the issue of data protection was addressed by the adoption of rules 'on the protection of personal data processed in the framework of police and judicial cooperation in criminal matters' specifically (EU Council 2008). Thus, in this case, supranational norms can result in stricter data protection practices.

Moreover, the Prüm regime will probably *decrease*, rather than increase, the amount of personal data which travels across borders. In the pre-Prüm era, when authorities in one country assume that a suspect is currently in another country, they resort to processes laid out in traditional cross-border legal aid agreements to request the other countries' support in locating and accessing the individual. For this purpose, nominal data pertaining to suspects (such as dates of birth, last known addresses, etc) are transmitted across borders. Within the Prüm regime, such personal data only crosses national borders if a profile hit in the database has been confirmed bilaterally. Thus, the implementation of the Prüm regime may lead to a more targeted exchange of identifying personal information only in cases where a preliminary suspicion has been supported by a confirmed DNA-profile match.

In sum, on the one hand, the Prüm regime undoubtedly grants authorities better access to large amounts of increasingly useful data; this is mainly due to the added value of data mining possibilities in a growing database. The Prüm regime thereby exacerbates the potentially oppressive elements of surveillance and renders wider groups of people vulnerable to becoming 'objects of surveillance and investigation because of the calculability of their criminal risks to others', as Lynch and McNally (2009: 284) eloquently put it (see also Machado *et al* 2010). On the other hand, however, the complex of surveillance systems inherent in the Prüm regime also empowers those who demand higher data protection standards, not only by highlighting the topic of data protection in the political and public domain as a valid concern in light of the increasing size and interlinking of databases, but also – and perhaps more importantly – by restricting the amount of personal identifying information that travels across borders. The latter also benefits suspects whose identifying details, in pre-Prüm times, would have been submitted to authorities in other countries while this is no longer the case within the Prüm regime (unless a DNA match has been established).

Situated dis/empowerment: Power shifts within the criminal justice system

The Prüm Decision has already started to shift rationales of governance in the field of policing and prosecution. In light of an increasing transnationalisation of criminal investigation, more attention is paid to those types of information which 'travel well' across borders due to the Prüm Decision: DNA,

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fingerprints, and vehicle data. This shifts the centres of gravity of power away from criminal investigators in two main directions:⁴ To forensic technocracy, and to the Prüm National Contact Points. These shifts may eventually have implications for the position of victims as well.

As has been shown above, members of what we termed the 'forensic technocracy' have been among the main drivers of the Prüm regime.⁵ Due to the fact that forensic DNA analysis – as opposed to eg fingerprint, shoe print, or tool mark analysis – is carried out in largely automated manners in laboratories, it is seen by many stake holders as 'more scientific' than other forensic technologies (Hindmarsh and Prainsack 2010). Also that DNA profiles are discrete data which can be compared by computers rather than fingerprint patterns or tool marks, which are in need of human interpretation, arguably contributes to the reputation of forensic DNA technologies as a 'truth machine' (Lynch *et al* 2008). DNA technologies are seen as less prone to human error. Although the presumed infallibility of forensic DNA technologies have experienced serious contestation recently (for a summary see Prainsack 2010a), their current status as a gold standard in criminal investigation locates the production of crucial evidence for truth-finding in the forensic science laboratory. Thus, it is no longer the criminal investigator who is seen as the bearer of the decisive expertise for solving a crime, but the forensic scientist. This shift is certainly also catalysed by public representations of criminal investigations in widely successful TV shows such as *Crime Scene Investigation (CSI)*, where the judgement of police detectives is portrayed as fallible while machines never make mistakes. Technological tools assume the roles of neutral, objective, and infallible visualisation machines for evidence that 'never lies' (Kruse 2010; M'charek 2008; Toom 2009).

However, the Prüm regime does not only shift power from criminal investigators to forensic technocracy (in the wide sense of the word), but it also grants National Contact Points a more central position. They become 'centres of calculation' where various forms of information converge (Latour 1990: 59; see also Cole 2001: 235). By connecting the various national databases, the Prüm regime facilitates the matching of subject profiles to unsolved crimes in different national jurisdictions, thereby turning individuals into suspects who would previously have remain unaffected by the investigation (see below, and Toom 2010b). Thus, it propels criminal investigations starting with a 'cold hit suspect', that is, an individual for whom 'there is no basis for suspicion other than a database hit (or match)' (Cole & Lynch 2006: 47; see also: Toom 2010a). Instead of taking the details of a crime as a starting point and looking for suspects based on what is known about the crime, such investigations start with a suspect that needs to be connected to the details of a crime. Once a 'cold hit' match has been established between a subject profile and an unsolved crime, police investigators and public prosecutor are alerted by the Prüm National Contact Point. Police can then open a

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criminal investigation against this suspect. Thus, National Contact Points become 'obligatory passage points' (Callon 1986) in a growing number of cases in the sense that the work of police investigators will start on their initiative and initially rely on information obtained from them. In an investigative epistemology (Innes 2002: 684) driven by a cold-case approach, also the work of public prosecutors is increasingly depends on the work of National Contact Points.

Last but not least, these power-shifts could have implications for the position of victims. Will the increasing orientation towards cold-hit driven 'genetic policing' (Williams & Johnson 2008) affect the willingness and readiness of police to invest in finding the perpetrator when no biological traces are available, especially – but not only – in cases when it is expected that the perpetrator may be outside of the country's jurisdiction? A so-called 'CSI effect' has been documented for jurors and judges, who put more weight on DNA evidence than on other kinds of evidence, or who refuse to convict in absence of such (Brewer and Ley 2010; for an overview see Durnal 2010). It remains to be seen whether the criminal investigation will be immune to such a CSI effect. Ironically, police investigators are often aware of such a danger and emphasise the need for 'good old' police work (Prainsack 2007; 2010b; Huey 2010). It is exactly the stronger reliance on technological tools, *not* the reliance on human judgement and interpretation, which introduces the risk of undue bias.

Situated dis/empowerment (and beyond): Shifting resources to volume crime?

A third instance of situated dis/empowerment in the context of Prüm concerns the consequences of a changing focus within the types of crime that will require (and receive?) extensive resources in the context of criminal investigation. The implementation of the Prüm regime by EU countries can be expected to lead to a growing operational importance of transnational bioinformation exchange. Moreover, it is expected that in light of the ongoing globalisation, and the expansion of the EU in particular, the urgency of preventing and solving volume crime will raise. This, in turn, would render the use of DNA profiling also in the realm of volume crimes increasingly attractive.

DNA analysis can contribute to the detection of crimes and, more importantly, help so solve them. Drawing on a UK Home Office Forensic Science and Pathology Unit report (Home Office 2006), Williams and Johnson (2008: 122) diagnosed 'a positive effect on the overall detection rate when crime scene DNA is found and successfully matched with subject DNA' on the national database in the case of volume crime. Similar findings were obtained from experimental programmes in other countries (Ashikhmin n.d.; Bond 2007; Roman *et al* 2008; Fraser and Williams 2009). Solving crimes can be considered a 'good' to the extent that it satisfies crime victims. In this light the increasing

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exchange of DNA-profiles across borders could lead to a larger number of criminal cases to be closed, allowing those affected from them to process emotions and consolidate their financial consequences. Due to this inherent promise alone, DNA analysis can be seen as empowering citizens in general and victims in particular. That this argument can also be used to support law-and-order types of arguments – which the authors personally do not subscribe to – does not detract from the importance of acknowledging that many citizens feel empowered by forensic technologies that promise to lead to higher detection and conviction rates. It is arguably exactly for this reason the Prüm Decision has not prominently featured in mass media; it was presumed that supposedly better tools for fighting crimes are a positive development that not many would disagree with; thus it did not qualify as newsworthy.⁶ Whether the Prüm regime will indeed lead to higher detection and/or conviction rates is a separate question which we will only be able to answer once the Decision has been implemented by all EU countries, and DNA-profiles have been exchanged within this framework (see also McCartney *et al* 2010).

Another characteristic of forensic DNA analysis is that it is believed to have a deterrent effect on criminal offenders. Although no convincing empirical evidence in support of this assumption has been presented so far (McCartney 2004: 161-162), the Prüm Decision mobilises this promise explicitly (Prüm Decision 2008: article 1). The assumption is that if a person knows that her DNA-profile is stored in a centralised police database, she will be deterred from committing a crime because she is very likely to be detected. Consequently, so the argument continues, the more DNA subject profiles are in a database, the fewer crimes will be committed (Etzioni 2004: 201). Such is a classical rational choice perspective, which regards criminal offenders as rational, benefit-maximising subjects who carry out cost-benefit analyses prior to committing a crime. While this may be true for some criminal offenders, especially within the group of 'career criminals' (Prainsack and Kitzberger 2009), there is no evidence on the basis of which this observation can be applied to the majority of criminal offenders. However, independent of the empirical evidence for the accuracy of the deterrence argument, it has tangible effects, one of which consists of a shift in resources: Given the high cost of DNA analysis (both in terms of staff and technical and laboratory resources), the expectation that (a) volume crime committed by non-residents is on the increase, and that (b) DNA analysis offers a solution not only leading to higher detection rates and by deterring criminal offenders in the first place, additional resources being made available for DNA analysis seem a logical consequence. As it is unlikely, especially in the current economic climate, that resources for criminal investigation will increase significantly overall, the implementation of the Prüm regime is likely to effect a shift in resource allocation away from types of crime that do not easily converge with DNA typing, eg child abuse, human trafficking, or fiscal crimes, to crime types that are typically

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These shifts are difficult if not impossible to classify in terms of *either* disempowerment *or* empowerment. They go beyond these categories insofar as they affect the rationales of governance in this field, and the norms according to which actors structure their actions. In other words, the shifts described in this sub-section concern the way that a field is rendered capable of structured intervention; and in turn, how the field is organised both for the purpose and as a result of its governance. Again, the term governance here signifies both top-down regulatory provisions structuring the actions of actors in this field (eg rules on in what kinds of cases DNA evidence is secured at the crime scene, and what resources are available for its analysis), and modes of self-governance of individuals who employ these rules and develop them further along these rationales. Just as Digeser's (1992) concept of the 'fourth face of power' does not allow the classification of the effects of power in terms of whose interests are harmed, because it conceives of interests as something that is *established by* the exercise of power instead of preceding it, the results of the likely shift of focus on volume crime effected the Prüm Decision would not only affect existing stake holder 'interests' but also constitute new ones. That the subjectivity of a person is (re)configured in the process of power being exercised means that at the moment when a person, for example, becomes the subject of an investigation due to a 'hit' in the DNA database although she would not have implicated in the investigation otherwise, her subjectivity, and her 'interests', shift: the person may start to understand herself in terms of a suspect; she might contact her lawyer; in other words, she becomes a new stake holder in the field. In a cold-case driven policing approach, such configurations of subject positions as new suspects are a frequent occurrence.

3. Conclusion

This paper set out to contribute to a better conceptualisation of agency – by which we refer to actions by humans and nonhumans that continuously reconfigure the world – in the surveillance studies literature. Taking the insightful critique of some surveillance studies scholars of the central role of the panoptic model as our point of departure, we argued that even approaches that enable us to see how power is exercised also horizontally and from the bottom up, such as the surveillant assemblage (Haggerty and Ericson 2000), have not solved the problem of an over-attention to the oppressive dimensions of surveillance. Moreover, although some authors have recently highlighted the productive, comforting, and even entertaining aspects of surveillance, it is rarely spelled out who

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benefits from surveillance, by what means, and who pays the price. Most importantly, little explicit attention has been paid to how empowering and disempowering effects of surveillance systems often constitute each other. This leaves open the question of why surveillance works, and why individuals regularly do not actively oppose surveillance and sometimes actively enlist in it (Monahan 2010).

To address this problem we introduced the concept of *situated dis/empowerment*, seeking to draw attention to the large extent to which of oppressive/disempowering and empowering elements are co-produced (Jasanoff 2004). A conceptual tool that conceives of empowerment and disempowerment as interlinked and co-created, leads our gaze to unexpected places. First, it leads us to discern shifts of power from one actor to another – and thus greater possibilities for the latter to structure their own and other actor's actions –, rather than to diagnose instances of the former controlling or monitoring the latter. Second, it helps us to be perceptive to new subject positions which arise in a given surveillance context. And, third, it helps us to understand not only why some actors are likely to enlist in surveillance while others are likely to resist, but also what factors are capable of shifting this balance.

The case study we chose to illustrate our concept of situated dis/empowerment is the transnational exchange of forensic DNA profiles in Europe, the so-called Prüm regime. Because of the strong and central role that governmental actors play in this system of surveillance, it could be tempting to suffice with a critique of the Prüm regime as a pan-European biosurveillance regime, highlighting the instances in which it conflicts with civil liberties and exacerbates existing biases. Instead, we articulated three instances of situated dis/empowerment effectuated by the Prüm regime. First, pertaining to data protection, we argued the Prüm regime is likely to render a wider group of subjects vulnerable to becoming objects of surveillance. At the same time, however, we held that the Prüm regime will probably decrease the amount of identifying information that travels across borders and will therefore empower those who benefit from higher data protection standards. Second, we argued that the new investigative epistemology of policing catalysed by the Prüm regime is one where DNA evidence assumes a central role in criminal investigation. This leads to shifts of power away from criminal investigators to forensic technocracy, and to National Contact Points within the Prüm system. We articulated this as an instance where the effects of a surveillance system cannot easily be classified as either empowering or disempowering, as they affect the rationales of governance and the distribution of power rather than compromising or fostering the needs and interests of actors. Instead, these effects lay the grounds for new subject positions, patterns of practice, and informal rules to emerge. Third, pertaining to growing attention to using DNA

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technologies to solve volume crime throughout Europe, we argued that DNA technologies, if they indeed contribute to higher detection and conviction rates, will empower civilians in general and victims in particular. Simultaneously, the same development is likely to divert attention and resources away from types of crimes where no biological traces are commonly found. In other words, it is likely that foregrounding volume crimes will lead to an empowerment of house and car owners as these crimes are typically accompanied by sampling DNA traces, whereas this will mean that probably less resources will be invested in the prevention and prosecution of crimes that not easily converge with DNA typing, such as human trafficking, child abuse or fiscal crimes. The latter will probably lead to a further erosion of the fragile position of the victims of those crimes.

Arguments highlighting the benefits of forensic DNA technologies assume a hegemonic position in public discourses, where crime is typically assumed to be the problem and tools to fight crime are proposed to be the answer. Within this rational, surveillance is seen as a necessary evil which needs to be accepted for a greater good. Such discourse is reified by the success stories of DNA technologies that we hear and read on almost a daily basis. Against this backdrop it is difficult to resist plans to increase the effectiveness of forensic DNA technologies without being accused of obstructing a safer society, or as choosing the sides of 'the crooks'.

The discursive economy relating to this topic within the social sciences is very different. As was outlined in the first part of our paper, the scholarly discourse arguably tends to over-emphasise oppressive sides of surveillance systems in general and DNA profiling and surveillance in particular. While we regard this latter phenomenon as a productive counter-weight to the emphatic embrace of intense and increasingly wider uses of forensic DNA technologies by publics and many stake holders, the disconnect between the normative stances prevalent in the public vs the social science realms is not conducive to a broader and more nuanced debate of the benefits, risks, and effects of their use. What our concept of situated dis/empowerment contributes to closing this gap is that it focuses our gaze on the practical, material, and semiotic (Haraway 1991) organisation of a given surveillance system, thereby fostering greater sensitivity for the situatedness of the distribution of agency, and to how identities are (re)constituted by surveillance practices. With the help of this concept we analysed how data protection issues, power shifts within the criminal justice system, and shifting resources to volume crimes can be understood as both empowering and disempowering. How and where, and to whom, it may be dis/empowering depends on the material semiotic practices which make up a concrete instance of action or practice.

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By spelling out the regime, we demonstrated how situated dis/empowerment can be used for a critical analysis of the Prüm regime, articulating how empowering and disempowering effects are co-constituted and depend on each other. As our example of data protection has shown, the same rules and practices that lead to a further accumulation of power for governmental authorities also result in a reduction of practices invasive of individual privacy in certain circumstances. This example also showed that situated dis/empowerment can only be articulated if the starting point of the analysis does not consist of abstract concepts and concerns but if its material, semiotic, and practical dimensions are in the centre. The concept of the surveillant assemblage, while being very helpful in conceptualising power as something that is distributed and exercised by and to different actors and arenas, still tends to ascribe agency to the theoretical concept itself, or to unduly abstracted actors such as the government, the police, or the media. Hence, situated dis/empowerment as a concept instructs us about the domains we study and their normative effects. In our instance, the transnational exchange of DNA profiles, the particular extents and ways in which this processes happen vary across nations, as they depend on the legal and practical configurations of forensic DNA technology use. We hope that in the years to come, detailed empirical and comparative studies of practices of the use of DNA in criminal investigations nationally and transnationally will enable a deeper understanding of these national differences.

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¹ However, Guild *et al.* (2008: 5) argue that the 'Prüm Treaty is not merely a technical attempt to accelerate the exchange of information among the participating member states. It is rather a countervailing political force against the EU's [Area of Freedom, Security and Justice, AFSJ].' The authors argue that the Prüm Treaty has weakened the EU more than it has strengthened it, namely by by creating new hierarchical structures; by compromising mutual trust among EU countries; by resorting to an intergovernmental framework which excludes the European Parliament; and by compromising the Hague Principle of Availability (which would in effect remove all national borders from mutual data use among EU countries, while the Prüm framework limits mutual data use to certain levels of the information). For these reasons, Balzacq (2006) argues that the provisions of the Prüm Treaty are not, *ratione materiae*, compatible with EU law. See also Kirkegaard (2008).

² Those provisions of the Prüm Treaty that were not transposed into EU law continue to be effective for transnational data exchange among the signatory countries of the Treaty.

³ The Prüm Decision applies to the exchange of vehicle data as well; however the transnational exchange of vehicle data has already started.

⁴ We are grateful to Robin Williams to alerting us to the instances discussed in this paragraph.

⁵ McCartney *et al* (2010: 40) report similar assessments from stake holders in the UK.

⁶ Media attention has been paid, however, to national DNA databases both in the UK and in the US; however this was triggered by recent contestations of the infallibility of forensic DNA technologies, and by the European Court of Human Right's 2008 *S and Marper vs UK* judgment pertaining to practices of DNA profile retention in England and Wales (Prainsack 2010a). The Prüm Decision does not feature prominently in the public debate in this instance either.